

AMENDMENTS TO THE CLAIMS

Please replace all prior versions, and listings, of claims in the application with the following list of claims:

1. (Currently Amended) A computer-implemented method of accessing one of a plurality of logical volumes stored on a plurality of storage systems in an enterprise, the one of the plurality of logical volumes being stored on at least one of the storage systems, the method comprising steps of:
receiving from a host computer an access request to access data stored on the one of the plurality of logical volumes, the access request specifying an enterprise logical volume identifier (ELVID) for the one of the plurality of logical volumes and a physical storage address for the one of the plurality of logical volumes, wherein the ELVID uniquely identifies the one of the plurality of logical volumes among the plurality of logical volumes, so that the ELVID ~~can be used~~ is usable to access the one of the plurality of logical volumes on at least two of the plurality of storage systems, and wherein the physical storage address specifies one of the plurality of storage systems in the enterprise; and
in response to the access request, verifying that the one of the plurality of logical volumes identified by the ELVID provided in the access request is stored on the one of the plurality of storage systems specified in the physical storage address provided in the access request.
2. (Original) The method of claim 1, further comprising a step of maintaining an ELVID database that includes ELVIDs and a corresponding physical storage location.
3. (Canceled)
4. (Previously Presented) The method of claim 3, wherein the step of verifying is performed by one of the plurality of storage systems.

5. (Previously Presented) The method of claim 4, further comprising a step of maintaining an ELVID database at each storage system, the respective ELVID database including ELVIDs stored at the respective storage system and a corresponding physical storage location.
6. (Original) The method of claim 1, wherein the step of verifying is performed by a storage management controller.
7. (Previously Presented) The method of claim 1, wherein the step of verifying is performed by one of the storage systems.
8. (Previously Presented) The method of claim 1, wherein the one of the plurality of logical volumes is a conventional logical volume.
9. (Previously Presented) The method of claim 1, wherein the one of the plurality of logical volumes is a component of a conventional logical volume.
10. (Previously Presented) The method of claim 1, wherein the one of the plurality of logical volumes is a hyper-volume.
11. (Previously Presented) The method of claim 1, wherein the one of the plurality of logical volumes is a striped volume.
12. (Previously Presented) The method of claim 1, wherein the one of the plurality of logical volumes is a partition.
13. (Previously Presented) The method of claim 1, further comprising a step of assuring that the host computer that issued the access request is authorized to access the one of the plurality of logical volumes.

14. (Previously Presented) The method of claim 13, further comprising a step of maintaining an ELVID database at each storage system, the respective ELVID database including ELVIDs and entities permitted to access the one of the plurality of logical volumes corresponding to the respective ELVID.

15. (Currently Amended) A computer-implemented method of accessing one of a plurality of logical volumes stored on a plurality of storage systems in an enterprise, the one of the plurality of logical volumes being stored on at least one of the storage systems, the method comprising steps of:

receiving from a host computer an enterprise logical volume identifier (ELVID) for the one of the plurality of logical volumes;

receiving from the host computer a physical storage address for the one of the plurality of logical volumes; and

using the ELVID to assure that an entity requesting access to the one of the plurality of logical volumes is authorized to do so, the ELVID uniquely identifying the one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the one of the plurality of logical volumes on at least two of the plurality of storage systems.

16. (Canceled)

17. (Previously Presented) The method of claim 15, wherein the step of using is performed by one of the plurality of storage systems.

18. (Previously Presented) The method of claim 15, wherein the step of using comprises a step of accessing an ELVID database.

19. (Original) The method of claim 15, wherein the step of using is performed by a storage management controller.

20. (Canceled)

21. (Previously Presented) The method of claim 17, further comprising a step of maintaining an ELVID database at each storage system, the respective ELVID database including ELVIDs and entities permitted to access the one of the plurality of logical volumes corresponding to the respective ELVID.

22. (Previously Presented) The method of claim 15, wherein the step of using comprises a step of accessing an ELVID database, the ELVID database including ELVIDs and entities permitted to access the one of the plurality of logical volumes corresponding to the respective ELVID.

23. (Original) The method of claim 15, wherein the entities are user accounts.

24. (Original) The method of claim 15, wherein the entities are host computers.

25. (Original) The method of claim 15, wherein the entities are applications running on host computers.

26. (Previously Presented) A host computer, comprising:
a processing unit; and
an enterprise logical volume identifier (ELVID) interface module to transmit an access request for at least one of a plurality of logical volumes over a network, the access request including an ELVID for the at least one of the plurality of logical volumes and a respective physical storage location on one of a plurality of storage systems, the ELVID uniquely identifying the one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the one of the plurality of logical volumes on at least two of the plurality of storage systems.

27. (Currently Amended) A storage system ~~for use~~ usable in an enterprise comprising a plurality of storage systems coupled by a network, the plurality of storage systems to store a plurality of logical volumes, the storage system comprising:

an input ~~for receiving~~ that receives an access request that includes an enterprise logical volume identifier (ELVID) for a logical volume and a physical storage address that identifies one of the plurality of storage systems;

a storage medium ~~to store~~ that stores data corresponding to the plurality of logical volumes;
and

an ELVID verifier module ~~to verify~~ that verifies that the logical volume identified by the ELVID indicated in the access request is stored on the one of the plurality of storage systems identified in the physical storage address indicated in the access request, the ELVID uniquely identifying the correct one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the correct one of the plurality of logical volumes on at least two of the plurality of storage systems.

28. (Previously Presented) The storage system of claim 27, further comprising an ELVID database including ELVIDs for the plurality of logical volumes stored on the storage system and a corresponding physical storage location.

29. (Currently Amended) A storage system ~~for use~~ usable in an enterprise comprising a plurality of storage systems coupled by a network, the plurality of storage systems to store a plurality of logical volumes, the storage system comprising:

a storage medium ~~to store~~ that stores data corresponding to the plurality of logical volumes;
and

an enterprise logical volume identifier (ELVID) authorization module ~~to verify~~ that verifies that an access request to a physical storage location on the storage medium is received from an entity permitted to access one of the plurality of logical volumes with a corresponding ELVID, the ELVID uniquely identifying the one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the one of the plurality of logical volumes on at least two of the plurality of storage systems.

30. (Previously Presented) The storage system of claim 29, further comprising a storage medium holding an ELVID database, the ELVID database including ELVIDs and entities permitted to access the one of the plurality of logical volumes corresponding to the respective ELVID.

31. (Previously Presented) A computer system comprising:

at least one host computer;

a plurality of storage systems that store a plurality of logical volumes;

means for receiving an access request to access data stored on one of the plurality of logical volumes, the access request specifying an enterprise logical volume identifier (ELVID) for the one of the plurality of logical volumes and a physical storage address for the one of the plurality of logical volumes that identifies one of the plurality of storage systems; and

means for verifying that the one of the plurality of logical volumes identified by the ELVID indicated in the access request is stored on the one of the plurality of storage systems identified in the physical storage address indicated in the access request, the ELVID uniquely identifying the one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the one of the plurality of logical volumes on at least two of the plurality of storage systems.

32. (Previously Presented) A computer system comprising:

at least one host computer;

a plurality of storage systems that store a plurality of logical volumes; and

means for verifying that access requests to the plurality of logical volumes using an associated enterprise logical volume identifier (ELVID) are made by an entity authorized to access a requested one of the plurality of logical volumes, the ELVID uniquely identifying the requested one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the requested one of the plurality of logical volumes on at least two of the plurality of storage systems.